

WHAT IS CLAIMED IS:

1. A disk array apparatus comprising:  
a cache memory for temporarily storing data to be read  
5 from or written to disks; and  
a control unit which associates data associated with  
logical addresses with physical addresses, writes the data  
associated with physical address in the cache memory and  
processes preferentially for writing the data associated with  
10 the physical addresses in the cache memory to the disks.
2. The disk array apparatus as claimed in claim 1,  
wherein said control unit releases the data associated  
with the physical addresses in the cache memory from a state  
15 in which the data is associated with the physical addresses  
after confirming that the writing is completed.
3. The disk array apparatus as claimed in claim 1,  
wherein said control unit comprises a plurality of  
20 control units which are physically independent of one another  
and wherein if a failure occurs in one control unit, another  
control unit takes over the preferential processing for the  
data associated with a physical address in the cache memory.
- 25 4. The disk array apparatus as claimed in claim 1,  
wherein said cache memory is a nonvolatile memory.

5. The disk array apparatus as claimed in claim 2,  
wherein said cache memory is a nonvolatile memory.

6. The disk array apparatus as claimed in claim 3,  
5 wherein said cache memory is a nonvolatile memory.

7. A data writing method in a disk array apparatus for reading  
and writing data from and to a plurality of disks in accordance  
with a command issued from an upper-level host computer, the  
10 method comprising the steps of:

before executing a processing for writing data to the  
plurality of disks, associating data associated with logical  
addresses with physical addresses to be temporarily stored  
in a cache memory;

15 associating data associated with logical addresses with  
physical addresses;

writing the data associated with physical address in the  
cache memory; and

processing preferentially for writing the data  
20 associated with the physical addresses in the cache memory  
to the disks.

8. The data writing method as claimed in claim 7, further  
comprising the step of:

25 releasing the data associated with the physical addresses  
in the cache memory from a state in which the data is associated  
with the physical addresses after confirming that the writing

is completed.

9. The data writing method as claimed in claim 7,

5 wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein, if a failure occurs in one control unit, another control unit takes over the preference processing for the data associated with a physical address in the cache memory.

10 10. The data writing method as claimed in claim 8,

15 wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein, if a failure occurs in one control unit, another control unit takes over the preference processing for the data associated with a physical address in the cache memory.